



**US Army Corps  
of Engineers®**

# ENGINEERING AND CONSTRUCTION BULLETIN

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**Subject:** Building Commissioning Versus Corps of Engineers Military Design/Construction Process.

**Applicability:** Information

1. The definition of Building Commissioning is provided by Portland Energy Conservation Inc. (PECI), "Commissioning is a systematic process of ensuring that all building systems perform interactively according to the contract documents, the design intent and the owner's operational needs. This is achieved ideally by beginning in the pre-design phase with design intent development and documentation, and continuing through design, construction and the warranty period with actual verification through review, testing and documentation of performance. The commissioning process integrates and enhances the traditionally separate functions of design peer review, equipment startup, control system calibration, testing, adjusting and balancing, equipment documentation and facility staff training, and adds the activities of documenting functional testing and verification".
2. The Corps of Engineers thru the Military Design/Construction Process, see figure on page 3, performs building commissioning. It is more than HVAC commissioning during construction. The Corps commissioning process spans the entire design and construction process. It starts at the planning and design phase with planning and design charrettes. The Corps is the commissioning agent for our customers. The Corps is responsible for quality assurance of approved building systems and components during construction, and when the project is near completion, we must ensure that the contractor conducts rigorous performance tests. See ECB 2005-10 for a schedule of testing requirements for mechanical systems in construction contracts. Mechanical systems testing milestones should be confirmed during the Red Zone meeting. At contract completion, building operators receive training and documentation to ensure proper O&M of the facility. The commissioning process optimizes the energy-efficiency of a new building and improves overall building performance. On Corps projects commissioning is included in all phases of a project from Planning, Design, Construction, Testing, Training, Turnover and Warranty.
3. Commercial building owners repeatedly stress that the lack of communication between the design team and construction team is a major problem. The building commissioning process on commercial projects was adopted to encourage parties to communicate and

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solve problems earlier in the construction process. The Corps performs Building Commissioning, which is inherent in our Military Design/Construction Process. Commissioning on Corps contracts is a quality-assurance quality-control process that increases the likelihood that a newly constructed building will meet customer expectations. As the commissioning agent or provider for our customers our involvement spans the entire process from planning thru construction. Per the commercial definition of building commissioning we have an excellent process in place. However, this does not mean that monitoring of our process is not required with improvements implemented as required.

4. Point of contact for this bulletin is Gary Bauer, CECW-CE-D, 202-761-0505.

A handwritten signature in black ink, appearing to read 'Donald L. Basham', with a long, sweeping horizontal stroke extending to the right.

DONALD L. BASHAM, P.E.  
Chief, Engineering and Construction Division  
Directorate of Civil Works

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## MILITARY DESIGN / CONSTRUCTION PROCESS

